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SKADDEN, ARPS, SLATE, MEAGHER & FLOM

333 WEST WACKER DRIVE

CHICAGO, ILLINOIS 60606-1285

(312) 407-0700

FAX: (312) 407-0411

DIRECT DIAL
(312) 407-

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August 12, 1994

William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Re: PR Docket No. 93-61, RM-8013:
Ex Parte Written Presentation

Dear Mr. Caton:

Pursuant to 47 C.F.R. § 1.1206(a)(1), this memorandum, along with one copy, is submitted to inform you that Warren Lavey and James Fink, attorneys for Sensormatic Electronics Corporation, on August 11th mailed, via federal express, a written presentation to Richard B. Engelman of the Office of Engineering and Technology ("OET"). The presentation reflected arguments already made by Sensormatic in its "Comments" dated June 29, 1993 and "Reply Comments" dated July 29, 1993. In addition, Sensormatic commented on an OET proposal regarding the 902-928 MHz band.

We are enclosing for filing two copies of the written presentation.

Respectfully Submitted,

James M. Fink

Warren G. Lavey
James M. Fink

Attorneys for Sensormatic
Electronics Corporation

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SKADDEN, ARPS, SLATE, MEAGHER & FLOM
333 WEST WACKER DRIVE
CHICAGO, ILLINOIS 60606-1285
(312) 407-0700

FAX: (312) 407-0411
DIRECT DIAL
(312) 407-

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August 11, 1994

Richard B. Engelman
Chief, Technical Standards Branch
Authorization and Evaluation Division
Office of Engineering and Technology
Federal Communications Commission
2025 M Street, N.W., Room 7122-B
Washington, D.C. 20554

Re: PR Docket No. 93-61, RM-8013: Sensormatic Electronic Corporation's Response to OET's Preliminary Proposal to Protect Part 15 Devices in the 902-928 MHz Band

Dear Mr. Engelman:

Sensormatic Electronics Corporation ("Sensormatic") hereby responds to OET's preliminary proposal to accommodate both Part 15 users and Location and Monitoring Services ("LMS") in the 902-928 MHz band. To its knowledge, Sensormatic is one of the largest manufacturers, and its customers are among the heaviest users, of Part 15 devices in the 902-928 MHz band. Sensormatic is the world's largest manufacturer and supplier of electronic article surveillance ("EAS") equipment to retailers. EAS devices are based on high frequency radio technology and perform as field disturbance sensors which deter shoplifting and internal theft by providing each piece of merchandise with its own anti-theft alarm.[1]

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[1] In past filings with the Commission and OET, Sensormatic has explained that Part 15 devices in

(continued...)

Sensormatic appreciates OET's attempts to improve upon the Commission's fatally-flawed proposal to flood the entire band with new LMS services.[2] However, while the OET's proposal is a good first step, it still does not adequately protect the operation of Part 15 devices in the band. Furthermore, because it substantially deviates from the Commission's April 1993 proposal, OET's preliminary proposal requires an additional "Notice and Comment" period pursuant to the Administrative Procedure Act.

General Comments. Sensormatic believes OET's proposal is unworkable because it wrongly assumes that Part 15 devices can co-exist with AVM and LMS services in the 902-928 MHz band. Before getting to the details of OET's preliminary proposal, Sensormatic wants to make the following overarching points related to the proposed introduction of new AVM and LMS services into the band:

- Part 15 devices cannot realistically coexist with new AVM and LMS services in the 902-928 MHz band. Harmful interference is inevitable.

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[1](...continued)
this band account for tens of thousands of high-wage American jobs and billions of dollars in domestic investment and productivity gains. Furthermore, Sensormatic has demonstrated that the Commission's April 1993 proposal would severely harm Part 15 devices that have operated in the 902-928 MHz band for many years. For over 20 years the Commission has authorized and encouraged manufacturers to invest in and develop Part 15 devices for use in the band. Users of Part 15 devices have also relied on this Commission policy in deciding which Part 15 devices to purchase and incorporate into their businesses. The Commission's proposals to render Part 15 devices ineffective in the 902-928 MHz band constitute a 180-degree reversal of long-standing Commission policy upon which many have relied.

[2] Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems, Notice of Proposed Rule Making, 8 FCC Rcd. 2502 (April 9, 1993).

Even the LMS proponents concede that EAS devices are one of two types of Part 15 device that cause over 90 percent of interference cases;[3]

- The installed base of Part 15 devices in the 902-928 MHz band is huge and diverse, running into the millions of devices nationwide. It would be impractical, if not impossible, for the Commission to protect AVM and LMS services from Part 15 interference;

- Given the inevitable interference problems, authorizing LMS services in the band would greatly impair the operation of many, if not all, Part 15 devices in the 902-928 MHz band. The AVM operators' current priority over Part 15 devices in the band guarantees that Part 15 users will be shut down.[4] Many AVM operators disingenuously claim that AVM and Part 15 devices would be able to co-exist under the proposed rules. They want to downplay the issue because they fear (correctly) that the Commission would not adopt the rules if it believed Part 15 devices would be crippled (which they would). However, the inevitability of harmful interference is documented in two papers submitted by members of the Part 15 community on August 11, 1994 in a joint letter filed with the Commission in response to the Wideband LMS Proponents' Consensus paper[5];

- If the Commission is determined to authorize both AVM and LMS systems in the 902-928 MHz band, the Commission must, prior to such authorization, explore ways to improve sharing of

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[3] "LMS Consensus Position on Part 15 Interference" at 4-5 (June 23, 1994).

[4] 47 C.F.R. § 15.5.

[5] The papers submitted were by (i) Jay Padgett, Ph.D., Chairman of the Telecommunications Industry Association Consumer Radio Section; and (ii) Robert J. Zavrel, Jr., RF Communication Products Manager, Metricom, Inc.

spectrum and compatibility between licensed operators and Part 15 users. Two possible methods for conducting such investigations for the 902-928 MHz band would be to establish (1) a Commission-sponsored Advisory Committee on Technical Standards or (2) an ad hoc cross-industry working group mediated by the Telecommunications Industry Association. The Committee or working group would study interference issues and would be composed of industry leaders representing diverse viewpoints, including licensed AVM operators, Part 15 users, and equipment manufacturers; and

- In any case, the Commission should allow AVM and LMS services, if at all, only on an equal, secondary basis with Part 15 users.

AVM and LMS Services Must Be Excluded From the 902-905 MHz Sub-Band. The vast majority of Sensormatic's microwave technology EAS devices operate in the 902-905 MHz sub-band. Prior to the Commission's adoption of new Part 15 rules in 1989, which opened up the 900 MHz band to a host of new Part 15 applications, Sensormatic's EAS devices operated on frequencies throughout the band. However, as a result of the 1989 rules, Sensormatic moved most of its EAS devices to the 902-905 MHz sub-band. All new microwave EAS devices developed by Sensormatic since 1989 use spread-spectrum techniques to hop over the entire range of frequencies between 902-905 MHz.

The 902-905 MHz sub-band is relatively free of AVM operations. AVM systems are not currently authorized to operate in the 902-903 MHz sub-band, and narrowband AVM systems can operate in the 903-904 MHz sub-band only on a developmental basis. While wideband AVM systems are authorized to operate in the 904-905 MHz sub-band, the interim nature of the AVM rules has limited the number of AVM systems actually operating there to manageable levels. Under OET's preliminary proposal, narrowband AVM systems would be authorized throughout the 902-904 MHz sub-band and new LMS services would be authorized in the 904-905 MHz sub-band. This vast expansion in AVM/LMS authorizations would overcrowd the 902-905 MHz sub-band very quickly and Sensormatic's EAS systems would, due to Section 15.5, be significantly impaired by LMS providers.

Only five years ago, the Commission recognized the significant public interest benefits associated with Sensormatic's EAS equipment in the 902-905 MHz sub-band and expressly stated that it would take steps to protect the operation of Sensormatic's equipment from the harmful interference of newly authorized devices:

> We recognize . . . that there are thousands of installed anti-theft systems in operation today that could be susceptible to interference under the rule changes we adopted. According to Sensormatic, these systems protect billions of dollars of merchandise at any given time, and have reduced retail store shoplifting losses from 50 to 80 percent. We are concerned that the interests of retailers and consumers would not be served if installed systems failed to operate effectively because of our rules changes, and significant increases in the incidence of retail theft resulted. Thus, if it is demonstrated . . . that our rule changes are the primary cause of significant problems in the operation of these installed systems that will create major losses for retailers and consumers, we will take steps to alleviate this harm.[6]

In 1990, the Commission reiterated its intent to protect Sensormatic's Part 15 EAS devices within the band:

> The Commission is sensitive . . . to the fact that the Sensormatic Corporation, an industry leader, has sold many thousands of its systems to stores across the country. Although we believe the interference potential of newly authorized Part 15 devices will be very slight, we are nonetheless persuaded, out of an abundance of caution, to grant some degree of re-

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[6] Revision of Part 15 of the Rules Regarding the Operation of Radio Frequency Devices Without an Individual License, 4 FCC Rcd. 7869, 7872 (1989) (emphasis added).

> lief from the immediate implementation of the new rules.[7]

The Commission delayed the authorization of new Part 15 devices in the 902-905 MHz sub-band for one year so as to give Sensormatic time to develop more interference-resistant EAS equipment. This Commission action led Sensormatic and others to believe that the 902-905 MHz sub-band was to be a "safe haven" for Part 15 users, free of interference from all other users. Sensormatic cooperated with many Part 15 manufacturers and users to move many of Sensormatic's customers to the 902-905 MHz sub-band to avoid interference.

During the following years, Sensormatic incurred considerable expense in modifying its equipment, including a substantial investment to design and launch a complete new series of products using spread-spectrum technology in the 902-905 MHz sub-band, so that it would continue to operate effectively in the more crowded sub-band. Sensormatic was willing to make these modifications primarily because of the implicit representations made by the Commission that the 1989 rule changes were the "last time" that new devices and services would be authorized in the sub-band.

At the absolute minimum, OET's preliminary proposal must be changed so that no wideband LMS services are allowed in the 904-905 MHz sub-band. The preferable solution is to exclude all AVM and LMS devices from the sub-band.

Allowing AVM and LMS Devices in the 905-928 MHz Sub-Band Would Harm other Sensormatic Devices and Impair the Availability of the 902-905 MHz Sub-Band. Even if the OET plan is modified in this way, authorizing LMS services elsewhere in the band will force many Part 15 users to migrate to the 902-905 MHz sub-band. While this migration would strain the ability of Sensormatic's spread-spectrum EAS devices to find a clear channel, at least there would be a chance that the EAS systems would

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[7] Revision of Part 15 of the Rules Regarding the Operation of Radio Frequency Devices Without an Individual License -- Sensormatic Petition for Reconsideration, 5 FCC Rcd. 3492, 3493 (1990).

be able to continue operation. There is no chance under the current OET proposal.

Furthermore, approximately 20 percent of Sensormatic's EAS systems still operate in the 905-920 MHz sub-band. OET's preliminary proposal would encourage new LMS services to be offered in this sub-band and force Sensormatic to incur substantial costs moving these systems down to the 902-905 MHz sub-band.[8] Such a considerable expense can be rationalized only if the Commission could assure Sensormatic that the 902-905 MHz sub-band would be a "safe-haven" for Part 15 devices.

In conclusion, Sensormatic strongly urges OET to abandon its preliminary proposal to authorize new LMS services in the 902-928 MHz band. However, if OET is intent on allowing LMS services into the band, its proposal must at a minimum be modified as follows:

| | |
|---|---|
| 902-905 | Part 15 safe haven; AVM and LMS excluded |
| 905-911 | Part 15 devices and wideband LMS systems allowed (Part 15 devices, including EAS devices, given co-equal status) |
| 911-920 | Part 15 devices and narrowband LMS systems allowed (Part 15 devices, including EAS devices, given co-equal status) |
| 920-926 | Part 15 devices and wideband LMS systems allowed (Part 15 devices, including EAS devices, given co-equal status) |
| 926-928 | Part 15 devices and narrowband LMS systems allowed (Part 15 devices, including EAS devices, given co-equal status) |

[8] While under OET's preliminary proposal some Part 15 devices would be given co-equal status, field disturbance sensors such as EAS systems would be expressly denied such status. Denying EAS systems equal treatment with other Part 15 devices is totally unfair and makes it all the more necessary to protect EAS systems in the 902-905 MHz sub-band.

Richard B. Engelman
Federal Communications Commission

Respectfully Submitted,

SENSORMATIC ELECTRONICS CORPORATION

Warren G. Lavey
James M. Fink
Skadden, Arps, Slate,
Meagher & Flom
333 West Wacker Drive
Chicago, Illinois 60606
(312) 407-0830

Its Attorneys

cc: Acting Secretary William F. Caton (2 copies)

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